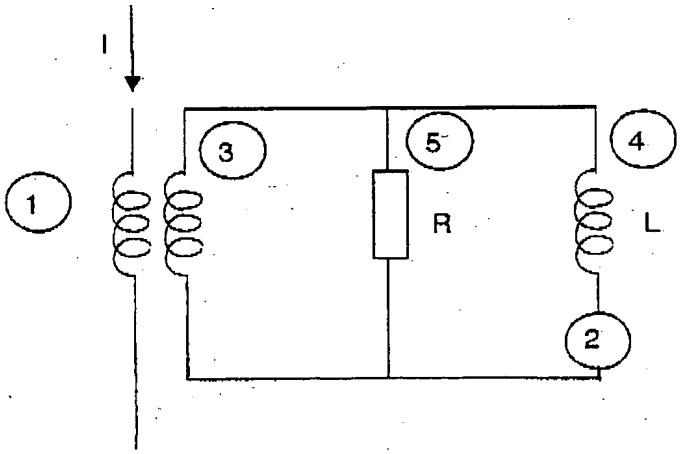
REMARKS

The specification has been amended to add section headings.

The Official Action objects to the disclosure for providing insufficient information for several features of the invention. It is to be noted that the claims have been amended in a manner that is believed to make the objection moot.

Further, the specification states at page 4, last paragraph, that the adjustment of the resistance and inductance of the turn can be adjusted "by construction," which one of skill in the art will understand. The specification also states at page 5, first paragraph, that the frequency can be adjusted by "altering the dimensioning of the elements 4 and 5," which one of skill in the art will understand. The Official Action acknowledges that the material of the turn inherently has a resistance and an inductance, and thus the objection to this feature is not understood.

By way of further explanation, the applicant provides additional information below that refers to the following diagram.



The wire 1 and the short-circuited turn can be modeled as an ideal transformer with a unity ratio, its secondary winding 3 is loaded by two impedances: a resistor 5 and an inductor 4.

The sensor 2 is sensitive to the magnetic field in the inductance which is proportional to the current flowing in the inductance 4 of the model.

Due to the ideal transformer analogy, current in the secondary winding 3 is equal to the current in primary winding 1. Part of this current flows in the resistor 5 and the remaining flows in the inductor 4.

At high frequency, current provided by secondary winding 3 flows in the resistor and not in the inductor, and thus sensor 2 does not see the magnetic field generated by the current I flowing in the wire 1.

At low frequency, all the current of secondary winding 3 flows in the inductor, and then sensor 2 sees the magnetic field generated by the current I flowing in the wire 1.

The structure 3, 5, 4 provides a low pass filter.

Accordingly, it is believed that one of skill in the art will find that there is sufficient information in the present application to understand the invention.

Claims 1-12 were rejected under §112, second paragraph, and have been amended. Reconsideration and withdrawal of the rejection are respectfully requested in view of the amendment and the comments above regarding the specification.

Claims 1-2 and 6 were rejected as anticipated by SELCUK 5,825,175. Reconsideration and withdrawal of the rejection are respectfully requested because the reference does not disclose a magnetic sensor in the form of a loop surrounding the wire. The magnetic sensor (37, 38) identified in the Official Action includes two separate Hall effect sensors, each in a respective recess 35, 36 (column 2, lines 61-65). Each of the two Hall effect sensors is a transducer (i.e., each is a single, separate electrical component, as illustrated in SELCUK) that varies its output voltage in response to changes in magnetic field density. They are not in the form of a loop surrounding the wire. Accordingly, claims 1-2 and 6 avoid the rejection under §102.

Claim 6 further avoids the rejection because SELCUK does not disclose a channel concentric with the torus of the turn, containing the magnetic sensor. The recesses 35, 36 in the reference do not continue around the inside of the arms 20, 21 and thus do not form a channel concentric with the torus of the turn.

Claims 3 and 8 were rejected as unpatentable over SELCUK; claims 4 and 9-11 were rejected further in view of GILBERT 2,958,036; claims 5 and 12 were rejected further in view of WARNER 2,175,046; and claim 7 was rejected further in view of KAWAGUCHI et al. 5,103,164. Reconsideration and withdrawal of the rejections are respectfully requested for the reasons set forth above.

Further, claim 3 is allowable because the references do not disclose or suggest the filter, where the turn provides the L/R filtering constant.

New claim 13 avoids the references because they do not disclose a magnetic sensor with a first wire forming a closed loop whose entire circumference is surrounded by coils of a coiled second wire, where the magnetic sensor extends completely around the wire whose current is being measured, and a turn of conductive material that is a loop in short circuit and extending completely around the wire whose current is being measured, where the turn has an internal annular channel in which the magnetic sensor is housed. New claim 14 includes the filter mentioned above and is allowable because the references do not disclose this filter.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any

overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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